

A two part signal acquisition process includes a parallel signal detection process and signal verification/false alarm rejection process. A massively parallel architecture of acquisition correlators search a large region of the time-frequency uncertainty during the parallel signal detection process to identify the most likely detections for each search dwell.

5 Concurrent with the parallel signal detection process performed by the acquisition correlators, the current list of most likely detections is examined with additional search dwells in the verification/false alarm rejection process. The verification/false alarm rejection process is performed by a plurality of independent correlators or tracking channels. Under software control, the tracking channels perform repeated dwells on the most likely detections until they
10 can be dismissed as false alarms or verified as the desired signal.